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# United States Patent [19] Horsch

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## [54] HYDRO-MECHANICAL TRANSMISSION

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[52] U.S. Cl. .... **475/72; 475/78; 475/82**

[58] Field of Search ..... **475/72, 76, 78, 475/80, 81, 82; 180/243, 307, 53.1; 56/12.8, 10.1, 11.1, 10.8**

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## [57] ABSTRACT

A hydro-mechanical transmission for an agricultural work vehicle is provided including a motor, a clutch and a differential assembly. The clutch which is rotatably supported by a housing includes first and second input shafts and a first output shaft. The first output shaft is configured to selectively couple to the first and second input shafts. The motor is coupled to the second input shaft, and the differential assembly which is rotatably supported by the housing is coupled to the first output shaft. The differential assembly includes a third input shaft coupled to the first output shaft, and a fourth input shaft coupled to the motor, and a second output shaft. The speed of the second output shaft is a combination of the speeds of the third and fourth input shafts.

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28 Claims, 3 Drawing Sheets

